

**FASTRIV® F.E.A. AUTOMATION
(PRE-ANALYSIS (INPUT PHASE))**

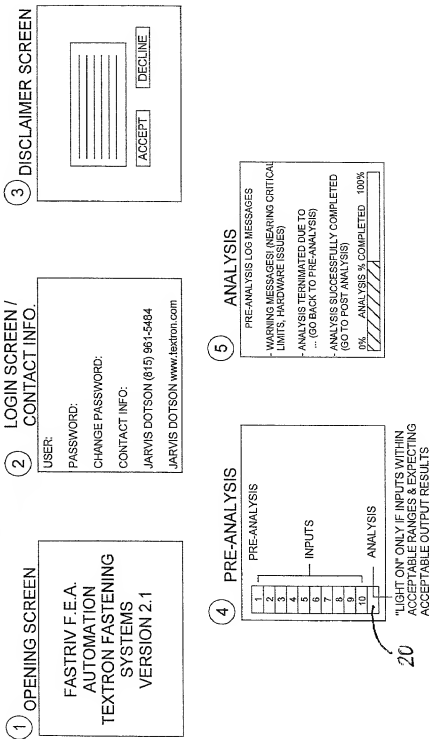


FIG. 1

FASTIV® F.E.A. AUTOMATION
(PRE-ANALYSIS (INPUT PHASE))

FILE EDIT PRINT

PROJECT DEFINITION
RIVET DEFINITION
JOINT DEFINITION
INSTALLATION EQUIPMENT DEFINITION
ANVIL DEFINITION
PLUNGER DEFINITION
DESIGN REQUIREMENTS
DATABASE SEARCH
F.E.A. PARAMETERS
POST PROCESSOR
ANALYSIS (LIGHT 'ON' OR 'OFF')

-20

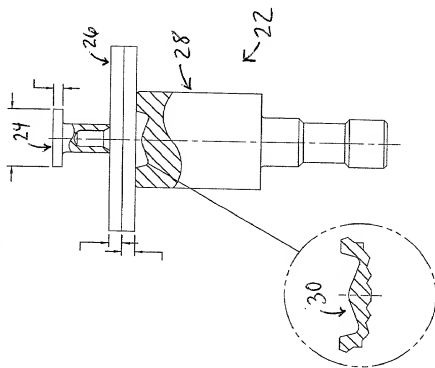


FIG. 2

FASTRIV® F.E.A. AUTOMATION
(PRE-ANALYSIS / PROJECT DEFINITION)

FILE EDIT PRINT

PROJECT DEFINITION
RIVET DEFINITION
JOINT DEFINITION
INSTALLATION EQUIPMENT DEFINITION
ANVIL DEFINITION
PLUNGER DEFINITION
DESIGN REQUIREMENTS
DATABASE SEARCH
F.E.A. PARAMETERS
POST PROCESSOR
ANALYSIS (LIGHT "ON" OR "OFF")

PROJECT DEFINITION

CUSTOMER NAME: _____

DATE: _____

ANALYSIS: _____

APPLICATION DESCRIPTION: _____

INTRODUCTION: _____

BACKGROUND: _____

RESULTS: _____

CONCLUSION: _____

PROJECT NUMBER: _____

FIG. 3

FASTRIV® F.E.A. AUTOMATION **(PRE-ANALYSIS (RIVET DEFINITION))**

FILE EDIT PRINT

PROJECT DEFINITION	
RIVET DEFINITION	
JOINT DEFINITION	
INSTALLATION EQUIPMENT DEFINITION	
ANVIL DEFINITION	
PLUNGER DEFINITION	
DESIGN REQUIREMENTS	
DATABASE SEARCH	
F.E.A. PARAMETERS	
POST PROCESSOR	
ANALYSIS (LIGHT-ON OR "OFF")	20

PRE-ANALYSIS RIVET DEFINITION

HEAD STYLE: ○ FLAT COUNTERSUNK HEAD
○ ORDINARY OVAL HEAD
● TINNED HEAD

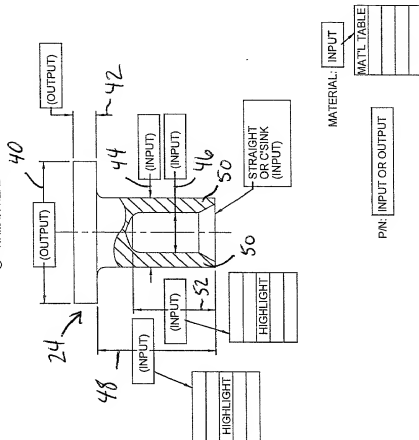


FIG. 4

FASTRIV® F.E.A. AUTOMATION
(PRE-ANALYSIS (JOINT DEFINITION))

PRE-ANALYSIS JOINT DEFINITION

FILE EDIT PRINT

PROJECT DEFINITION
RIVET DEFINITION
JOINT DEFINITION
INSTALLATION EQUIPMENT DEFINITION
ANVIL DEFINITION
PLUNGER DEFINITION
DESIGN REQUIREMENTS
DATABASE SEARCH
F.E.A. PARAMETERS
POST PROCESSOR
ANALYSIS ANALYSIS (LIGHT ON OR OFF)

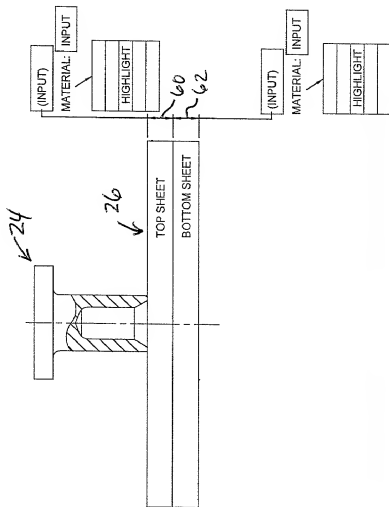


FIG. 5

FASTRIV® F.E.A. AUTOMATION
(PRE-ANALYSIS (INSTALLATION EQUIPMENT DEFINITION))

PRE-ANALYSIS INSTALLATION EQUIPMENT DEFINITION

FILE EDIT PRINT

PROJECT DEFINITION
RIVET DEFINITION
JOINT DEFINITION
INSTALLATION EQUIPMENT DEFINITION
ANVIL DEFINITION
PLUNGER DEFINITION
DESIGN REQUIREMENTS
DATABASE SEARCH
F.E.A. PARAMETERS
POST PROCESSOR
ANALYSIS (LIGHT "ON" OR "OFF")

20

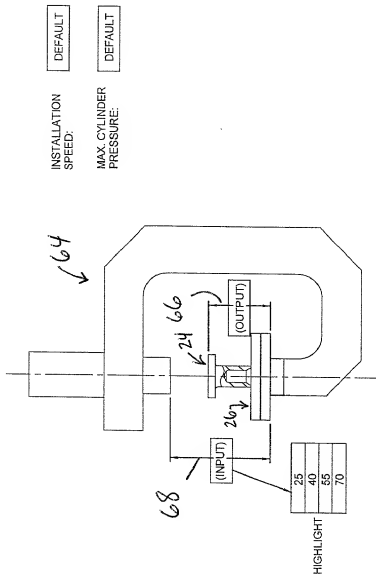


FIG. 6

FASTRIV® F.E.A. AUTOMATION
(PRE-ANALYSIS (ANVIL DEFINITION))

PRE-ANALYSIS ANVIL DEFINITION

FILE EDIT PRINT

PROJECT DEFINITION
RIVET DEFINITION
JOINT DEFINITION
INSTALLATION EQUIPMENT DEFINITION
ANVIL DEFINITION
PLUNGER DEFINITION
DESIGN REQUIREMENTS
DATABASE SEARCH
F.E.A. PARAMETERS
POST PROCESSOR
ANALYSIS (LIGHT ON OR OFF)

ANVIL TYPE:



PLAIN CONE ANVIL

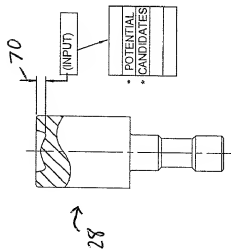


DUAL RADI CONVEX ANVIL



SINGLE RADI CONVEX

CHAMFERED ANVIL



MATERIAL: **DEFAULT**

* MODELED AS RIGID

PIN: INPUT OR OUTPUT

20

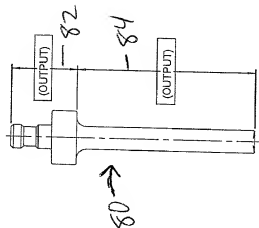
FIG. 7

FASTRIV® F.E.A. AUTOMATION
(PRE-ANALYSIS (PLUNGER DEFINITION))

PRE-ANALYSIS PLUNGER DEFINITION

FILE EDIT PRINT

PROJECT DEFINITION
RMET DEFINITION
JOINT DEFINITION
INSTALLATION EQUIPMENT DEFINITION
ANVIL DEFINITION
PLUNGER DEFINITION
DESIGN REQUIREMENTS
DATABASE SEARCH
F.E.A. PARAMETERS
POST PROCESSOR
ANALYSIS (LIGHT 'ON' OR 'OFF')



MATERIAL: DEFAULT

* MODELED AS RIGID

20

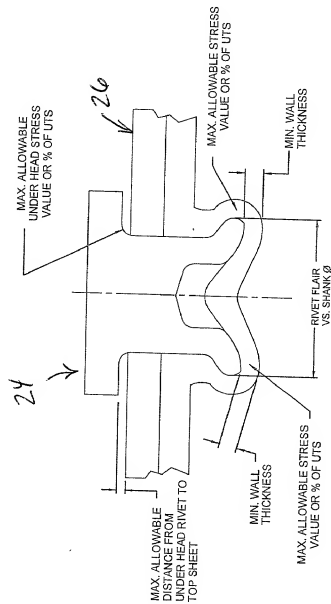
FIG. 8

**FASTRIV® F.E.A. AUTOMATION
(PRE-ANALYSIS (DESIGN REQUIREMENTS))**

FILE EDIT PRINT

PROJECT DEFINITION
RIVET DEFINITION
JOINT DEFINITION
INSTALLATION EQUIPMENT DEFINITION
ANVIL DEFINITION
PLUNGER DEFINITION
DESIGN REQUIREMENTS
DATABASE SEARCH
F.E.A. PARAMETERS
POST PROCESSOR
ANALYSIS (LIGHT 'ON' OR 'OFF')

RIVETED JOINT REQUIREMENTS



RIVET JOINT
STRENGTH REQUIREMENT

-20

FIG. 9

FASTRIV® F.E.A. AUTOMATION
(PRE-ANALYSIS DATABASE SEARCH)

FILE EDIT PRINT

PROJECT DEFINITION
RIVET DEFINITION
JOINT DEFINITION
INSTALLATION EQUIPMENT DEFINITION
ANVIL DEFINITION
PLUNGER DEFINITION
DESIGN REQUIREMENTS
DATABASE SEARCH
F.E.A. PARAMETERS
POST PROCESSOR
ANALYSIS (LIGHT "ON" OR "OFF")

PRE-ANALYSIS DATABASE SEARCH

THE ABILITY TO SELECT
 ANY OF COMBINATION
 OF THE INPUTS AT THIS
 STAGE. THIS WILL TIE
 INTO A CENTRAL DATABASE

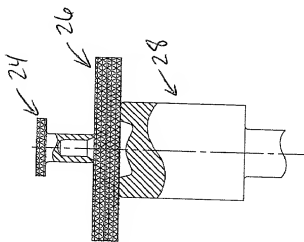
FIG. 10

FASTRIV® F.E.A. AUTOMATION **(PRE-ANALYSIS (F.E.A. PARAMETERS))**

PRE-ANALYSIS F.E.A. PARAMETERS

FILE EDIT PRINT

PROJECT DEFINITION
RIVET DEFINITION
JOINT DEFINITION
INSTALLATION EQUIPMENT DEFINITION
ANVIL DEFINITION
PLUNGER DEFINITION
DESIGN REQUIREMENTS
DATABASE SEARCH
F.E.A. PARAMETERS
POST PROCESSOR
ANALYSIS (LIGHT "ON" OR "OFF")



OBJECT:

- ⊗ RIVET (MESH, BCC)
- TOP SHEET (MESH, BCC)
- BOTTOM SHEET (MESH, BCC)

ADVANCED
SETTINGS

INTEROBJECT BCC
OK

FIG. 11

FASTIV[®] F.E.A. AUTOMATION
POST-ANALYSIS

POST-ANALYSIS

FILE EDIT PRINT

DEFORMED /
UNDEFORMED
PLOTDIMENSIONAL
RESULTSSTRESS
RESULTSPUSH-OUT
RESULTSSAFETY
FACTOR
PLOTRETURN TO
PRE-ANALYSISOUTPUT
PLOTS / CALCULATIONS

FIG. 12

290

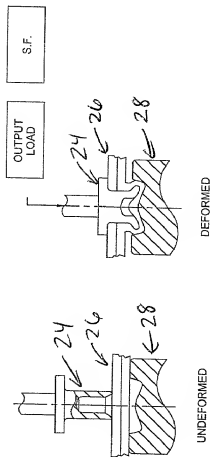
FASTRIV® F.E.A. AUTOMATION
POST-ANALYSIS

FILE EDIT PRINT

DEFORMED / UNDEFORMED PLOT
DIMENSIONAL RESULTS
STRESS RESULTS
PUSH-OUT RESULTS
SAFETY FACTOR PLOT
RETURN TO PRE-ANALYSIS

90

DEFORMED / UNDEFORMED PLOT



UNDEFORMED

DEFORMED

L VS. Δ

- * ZOOM CAPABILITY
- * ADD / REMOVE ANY OBJECT(S)
- * ANIMATION

FIG. 13

FASTIV[®] F.E.A. AUTOMATION
POST-ANALYSIS

FILE EDIT PRINT

DEFORMED /
UNDEFORMED
PLOT

DIMENSIONAL
RESULTS

STRESS
RESULTS

PUSH-OUT
RESULTS

SAFETY
FACTOR
PLOT

RETURN TO
PRE-ANALYSIS

DIMENSIONAL RESULTS
(DEFORMATION PLOT)

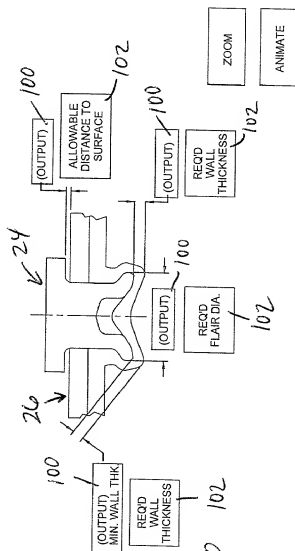


FIG. 14

FASTRIV® F.E.A. AUTOMATION
POST-ANALYSIS

FILE EDIT PRINT

DEFORMED /
UNDEFORMED
PLOT

DIMENSIONAL
RESULTS

STRESS
RESULTS

PUSH-OUT
RESULTS

SAFETY
FACTOR
PLOT

RETURN TO
PRE-ANALYSIS

STRESS RESULTS

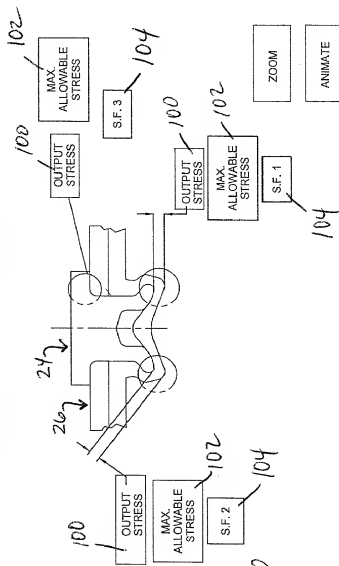


FIG. 15

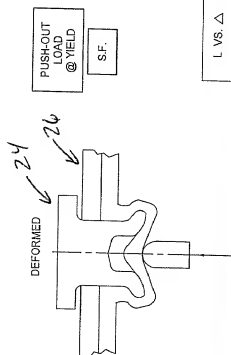
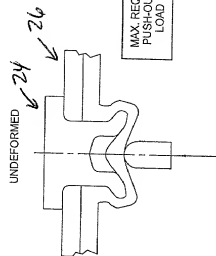
FASTRIV® F.E.A. AUTOMATION **POST-ANALYSIS**

FILE EDIT PRINT

DEFORMED/ UNDEFORMED PLOT
DIMENSIONAL RESULTS
STRESS RESULTS
PUSH-OUT RESULTS
SAFETY FACTOR PLOT
RETURN TO PRE-ANALYSIS

90

PUSH-OUT LOADING



L VS. Δ

ZOOM

ANIMATE

FIG. 16

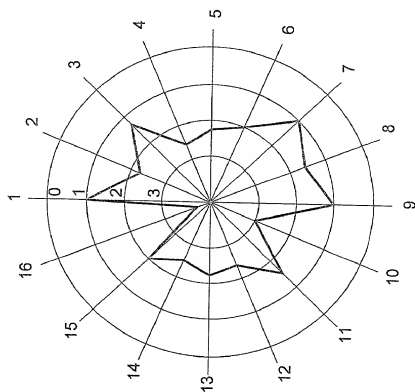
EASTRIV® FEA. AUTOMATION
POST-ANALYSIS

FILE EDIT PRINT

DEFORMED/ UNDEFORMED PLOT
DIMENSIONAL RESULTS
STRESS RESULTS
PUSH-OUT RESULTS
SAFETY FACTOR PLOT
RETURN TO PRE-ANALYSIS

90

SAFETY FACTOR PLOT



LIST
SAFETY
FACTOR
VALUES

FIG. 17